WHAT IS CLAIMED IS:

1. An optical fiber array characterized by comprising:

a substrate having a shoulder and including a grooved portion and a planar portion which are formed integrally with each other on respective opposite sides of said shoulder;

a plurality of grooves formed in said grooved portion of said substrate such that said plurality of grooves are arranged in parallel with each other and such that each of said plurality of grooves is defined by two side walls which form a predetermined angle therebetween;

a plurality of optical fibers accommodated within said plurality of grooves, respectively, and thereby positioned on said grooved portion, said plurality of optical fibers being supported by said planar portion of said substrate;

a covering plate disposed on said grooved portion of said substrate, to force said optical fibers accommodated in said plurality of grooves of said grooved portion, onto said two side walls of said each groove, to thereby position said optical fibers; and

adhesive layers formed so as to fill gaps between said optical fibers and said substrate and between said optical fibers and said covering plate, for integrally bonding said optical fibers to said substrate and said covering plate,

and wherein said gaps consists of a gap having a transverse cross sectional surface area S1 and formed between

each of said optical fibers and an upper surface of said substrate, and a lower surface of said covering plate, and a gap having a transverse cross sectional surface area S2 and formed between each of said grooves and said each optical fiber, said transverse cross sectional surface areas S1 and S2 being determined to satisfy an inequality $S1 > S2$.

2. The optical fiber array according to claim 1, wherein each of said optical fibers has an outside diameter of 125μm and said optical fibers are arranged with a spacing pitch of 127μm, said predetermined angle formed between said two side walls of said each groove is larger than 70° and smaller than 100°.

3. The optical fiber array according to claim 1, wherein each of said grooves is a V-shaped groove.

4. The optical fiber array according to claim 1, wherein each of said grooves is a groove having an inverted trapezoidal shape.

5. The optical fiber array according to claim 1, wherein each of said grooves is a U-shaped groove.

6. The optical fiber array according to claim 3, wherein said predetermined angle formed between said two side walls of said V-shaped groove is gradually increased in a

portion of said grooved portion of said substrate on the side of said shoulder.

7. The optical fiber array according to claim 3, a depth of said V-shaped groove is gradually increased in a portion of said grooved portion of said substrate on the side of said shoulder.

8. A substrate for an optical fiber array, characterized by comprising:

a grooved portion for positioning a plurality of optical fibers; and

a plurality of grooves formed in said grooved portion such that said plurality of grooves are arranged in parallel with each other and such that each of said plurality of grooves is defined by two side walls which form therebetween an angle larger than 70° and smaller than 100°, said plurality of optical fibers being accommodated in said plurality of grooves, respectively, and thereby positioned on said grooved portion.

9. The substrate according to claim 8, which is formed by a press forming method.

10. An optical fiber array characterized by comprising:

a substrate having a shoulder and including a grooved portion and a planar portion which are formed integrally with

each other on respective opposite sides of said shoulder;

a plurality of V-shaped grooves formed in said grooved portion of said substrate such that said plurality of V-shaped grooves are arranged in parallel with each other and such that each of said V-shaped grooves has a V-shape defined by two side walls which form therebetween an angle which is gradually increased in a portion of said grooved portion on the side of said substrate;

a plurality of optical fibers accommodated within said plurality of V-shaped grooves, respectively, and thereby positioned on said grooved portion, said plurality of optical fibers being supported by said planar portion of said substrate;

a covering plate disposed on said grooved portion of said substrate, to force said optical fibers accommodated in said plurality of grooves of said grooved portion of said substrate, onto said two side walls of said each V-shaped groove, to thereby position said optical fibers; and

adhesive layers formed so as to fill gaps between said optical fibers and said substrate and between said optical fibers and said covering plate, for integrally bonding said optical fibers to said substrate and said covering plate.

11. An optical fiber array characterized by comprising:

a substrate having a shoulder and including a grooved portion and a planar portion which are formed integrally with each other on respective opposite sides of said shoulder;

a plurality of V-shaped grooves formed in said grooved portion of said substrate such that said plurality of V-shaped grooves are arranged in parallel with each other, such that each of said V-shaped grooves has a V-shape, and such that a depth of said V-shaped groove is gradually increased in a portion of said grooved portion on the side of said substrate;

a plurality of optical fibers accommodated within said plurality of V-shaped grooves, respectively, and thereby positioned on said grooved portion, said plurality of optical fibers being supported by said planar portion of said substrate;

a covering plate disposed on said grooved portion of said substrate, to force said optical fibers accommodated in said plurality of grooves of said grooved portion of said substrate, onto two side walls defining said each V-shaped groove, to thereby position said optical fibers; and

adhesive layers formed so as to fill gaps between said optical fibers and said substrate and between said optical fibers and said covering plate, for integrally bonding said optical fibers to said substrate and said covering plate.

12. A substrate for an optical fiber array, characterized by comprising:

a grooved portion for positioning a plurality of optical fibers;

a planar portion formed integrally with said grooved portion, with a shoulder being formed between said grooved and planar portions, said planar portion supporting said plurality of

optical fibers positioned on said grooved portion; and

a plurality of V-shaped grooves formed in said grooved portion of said substrate such that said plurality of V-shaped grooves are arranged in parallel with each other and such that each of said V-shaped grooves has a V-shape defined by two side walls which form therebetween an angle which is gradually increased in a portion of said grooved portion on the side of said substrate, said plurality of optical fibers being accommodated in said plurality of grooves, respectively, and thereby positioned on said grooved portion.

13. The substrate according to claim 12, wherein said angle is gradually increased in a portion of said each V-shaped groove between a longitudinally intermediate part thereof and an end thereof on the side of said shoulder.

14. The substrate according to claim 12, which is formed by a press forming method.

15. A substrate for an optical fiber array, characterized by comprising:

a grooved portion for positioning a plurality of optical fibers;

a planar portion formed integrally with said grooved portion, with a shoulder being formed between said grooved and planar portions, said planar portion supporting said plurality of optical fibers positioned on said grooved portion; and

a plurality of V-shaped grooves formed in said grooved portion of said substrate such that said plurality of V-shaped grooves are arranged in parallel with each other, such that each of said V-shaped grooves has a V-shape, and such that a depth of said V-shaped groove is gradually increased in a portion of said grooved portion on the side of said substrate, said plurality of optical fibers being accommodated in said plurality of grooves, respectively, and thereby positioned on said grooved portion.

16. The substrate according to claim 15, wherein said depth is gradually increased in a portion of said each V-shaped groove between a longitudinally intermediate part thereof and an end thereof on the side of said shoulder.

17. The substrate according to claim 15, which is formed by a press forming method.